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ABSTRACT

This instructor's guide is designed to be used as a reference and an aid in implementing the auto body repair curriculum for training auto body repairers, shop estimators, or auto painters. (See note regarding companion student materials.) Introductory sections describe briefly the methods of identification and validation of job titles and competencies on which the curriculum is based and describe the functions of the developmental committee. An outline of program organization (list of sixty-three competencies divided into eight modules), references for seven basic tests, and an equipment list are presented. Major contents consist of an instructor's sheet for each competency: each includes a summary of the equipment needed, list of instructor responsibilities, and a summary and/or answers to the student criterion evaluation. Competencies are divided into the following eight modules: (1) occupational information, (2) trim and accessories, (3) glass, (4) painting and refinishing, (5) metal work, (6) body alignment, (7) frame work, and (8) estimating. (LRA)

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Teacher's Guide

AUTO BODY REPAIR

Competency Based Education Curriculum

Prepared by

RCA Education Service

Produced at

the West Virginia

Vocational Curriculum Laboratory

by

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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February, 1979

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PREFACE

It is with the greatest pleasure that we bring you another West Virginia competency based education (CBE) curriculum. This Auto Body Repair curriculum was developed for West Virginia by RCA Education Service. The effort was coordinated by staff of the Bureau of Vocational, Technical and Adult Education.

The Bureau began advocating CBE curriculum in 1974. Since that time West Virginia has produced over 20 CBE curricula in various occupational areas. We also have a number of CBE curricula currently in the process of being developed and/or field-tested.

This Auto Body Repair curriculum was disseminated to West Virginia educators at the Annual Vocational Teachers Conference held in Morgantown, West Virginia, in August 1979. Additional copies of this curriculum are available from:

Vocational Curriculum Laboratory
Cedar Lakes Conference Center
Ripley, West Virginia 25271

I trust this curriculum will help your program. Any suggestions you may have for improving it may be sent to our state Curriculum Lab. Through this feedback we plan to continually update our materials.

Clarence E. Burdette

Clarence E. Burdette
Assistant State Superintendent of Schools
Bureau of Vocational, Technical and
Adult Education

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INSTRUCTOR'S GUIDE - AUTO BODY REPAIR

I. Introduction

The State Department of Vocational, Technical and Adult Education supports the concept of Competency Based Education (CBE) because it is based upon occupational relevancy and can account for skills required by an individual to perform on the job. CBE is based on mastery learning principles and requires demonstration of skill and thus can ensure that critical skills required of the entry-level worker are included and attained in training. CBE allows for individual progress, and can provide employable skills for some students after short periods of training and can also lead to preparation for more advanced jobs.

This instructor's guide is to be used as a reference for instructors and an aid in implementing the curriculum in their program.

The following people and businesses were very helpful in the development of this CBE curriculum:

Fred Walker, Garnett Adult Center
Harold Flannigan, United Career Center
Donald Meadows, Putnam County Vocational Center
Hartzel Miller, Fred W. Eberly Vocational Center
Landers Chevrolet, Inc., Hurricane
Harry Green Chevrolet, Clarksburg
Mansfield Motor Sales, Inc., Richwood
Hewitt Motors, Richwood
Lambert Chevrolet and Oldsmobile, Parsons
Raines Imports, Charleston
Tag Galyean Chevrolet, Charleston
Kanawha Regional Transit Authority Charleston

II. Identification and Validation of Job Titles and Competencies

The competencies for Auto Body Repair are identified from three sources: V-TECS Catalog, ERIC, and exemplary program material.

The following job titles were identified through a review of the Dictionary of Occupational Titles and consultation with instructors in the Auto Body field. The West Virginia Department of Employment Security also uses these titles from DOT:

Auto Body Repairman	807.381
Shop Estimator	807.287
Auto Painter	845.781

In order to remove sex stereotyping, auto body repairman was changed to auto body repairer. This title has since appeared in the 4th edition, 1977, of the DOT.

The competencies and equipment list were validated through a mail survey to Auto Body instructors under the Bureau of Vocational, Technical and Adult Education and auto body repairers and supervisors employed throughout the State. In addition, the Developmental Committee reviewed the competencies.

The surveys were calculated and any tasks that were performed by less than 40% of the workers were dropped.

III. Function of the Developmental Committee

As mentioned in the previous section, the Developmental Committee played a decisive role in the development of the curriculum. The members of the Committee consisted of Dr. Fred Harrington, State Curriculum Supervisor; Dr. Jim Rosebrook, State Industrial and Technical Supervisor; and Fred Walker, Auto Body Instructor. The Committee met on several occasions for the following purposes:

1. Establish curriculum format and clarify project objectives.
2. Review major job titles and competencies.
3. Review survey results.
4. Finalize competency list.
5. Review materials.

IV. Program Organization

The program has been organized into the eight modules, as follows:

MODULE 01: OCCUPATIONAL INFORMATION

01 Describe working conditions common to auto body repairers.
02 Describe educational and/or technical requirements for auto body repairers.
03 Describe the job market over the next 5-10 years for auto body repairers.
04 Describe the average salary and benefits given to auto body repairers.
05 Describe or define basic tools and job tasks common to auto body repairers.

MODULE 02: TRIM AND ACCESSORIES

01 Remove and replace bumpers.
02 Replace molding.
03 Remove and replace grille.
04 Replace locks and latches.
05 Repair manual seat tracks.
06 Remove, replace, and adjust power window control units.
07 Repair and/or replace window raising and lowering mechanisms.
08 Remove and replace seat and shoulder belts.

MODULE 03: GLASS

01 Remove and install windshield or rear window.
02 Install and align windows in doors.
03 Seal leaks around windshield and rear window.

MODULE 04: PAINTING AND REFINISHING

01 Identify different types of abrasives and explain their functions.
02 Use and maintain a spray gun.
03 Clean and prepare surface for undercoats.
04 Mask sections and parts.
05 Prepare and apply undercoats.
06 Match and mix paint, using correct thinners according to shop conditions.
07 Paint and finish surface.
08 Heat dry painted surface.
09 Refinish automobile with acrylic enamel.
10 Refinish automobile with acrylic lacquer.
11 Apply pinstriping to automobile.
12 Replace woodgrain panels.

MODULE 05: METAL WORK

01 Identify the various types of construction used in automobile manufacturing.
02 Identify parts (body and frame) of an automobile.
03 Identify welding processes used in restoring a damaged automobile.
04 Set up oxyacetylene welding station.
05 Select tip pressure and flame for oxyacetylene welding.
06 Cut metal with a gas welder.
07 Perform gas butt welding.
08 Perform lap welding operations with a spot weld.
09 Weld automotive framing member with an arc welder.
10 Perform diagonal checking.
11 Identify sheet metal damage.
12 Use auto body hammers and dollies to "rough out" sheet metal.
13 Use body file and pick hammer to smooth damaged sheet metal.
14 Use slide hammer and body spoon to restore damaged sheet metal.
15 Shrink a stretched area on a panel.
16 Fill and smooth depressed areas with body solder.
17 Use light-duty hydraulic straightening equipment.
18 Use plastic filler to restore damaged area.
19 Use fiber glass to restore a damaged area.
20 Repair fiber glass bodies.

MODULE 06: BODY ALIGNMENT

01 Aligns moveable body components (doors, deck lid and hood).
02 Remove and install fenders.
03 Align headlights.
04 Align front end.
05 Remove and install fiber glass panel.

MODULE 07: FRAME WORK

01 Analyze extent of damage to frame.
02 Align frame using portable or stationary frame equipment.
03 Repair frame horn and crossmember.
04 Reinforce frame.

MODULE 08: ESTIMATING

01 Explain why collision estimates may vary.
02 Identify extent of damages on automobile needing repair.
03 Use collision guide to compute costs of parts and labor for a damaged automobile.
04 Complete estimate form for a damaged automobile.
05 Verify insurance coverage.
06 Order parts and materials.

V. Bibliography

The curriculum is based upon the following textbooks. Copies of the textbooks are available on loan from the Curriculum Laboratory at Cedar Lakes.

Duenk, L.G., W.R. Williams, and C.A. Brooks, Auto Body Repair. Peoria, Ill.: Bennett Co., Inc., 1977.

Hobson, W.T., ed., Automotive Refinishing: Principles and Techniques. Wilmington, Delaware: DuPont, 1973.

Mitchell Manuals, Imported Collision Estimating Guide. San Diego: Cordura Co., 1977.

Rhone, L.C., Total Auto Body Repair, Indianapolis: Sams & Co., 1976.

Spicer, E.D., Automotive Collision Work. Chicago: American Technical Society, 1972.

Tait, A., A.G. Deroche, and Nicholas N. Hildebrand, The Principles of Auto Body Repairing and Repainting. Englewood Cliffs, NJ: Prentice-Hall, 1976.

Toboldt, Bill, Auto Body: Repairing and Repainting. South Holland, Ill.: Goodheart-Wilcox Co., 1976.

VI. Equipment List

Air Chuck, for Air Tires

Air Compressor

Air Drill

Air File, Orbital or Straight Line

Air Hose, with Quick Couplings

Air Regulator, with Extractors

Air Regulator, without Extractors

Aligning Machine, Front-End

Allen Wrenches, Set

Arbor Press

Arc Welder

Automotive Disc Sanders (Grinder)

Battery Charger

Body Clamps, Assorted

Body-and-Fender Jacks, 4-ton Capacity

Body-and-Fender Jacks, 10-ton Capacity

Body Files, Flat and Half Round

Brushes, Striping

Brushes, Wire

Bumper Chains

Caulking Gun

Center Line Gauge

Chisels, Assorted

Come-Along

Crash Book

Creepers

Cutter, Sheet Metal, Hand

Cutter, Sheet Metal, Power

D.A. Sander (Random Orbital)

Disc Cutter

Dollies, Assorted

Drain Pans

Drill Bits, Set

Drop Lights

Electric Drill

Extension Cord

Fender Covers

File Boards

Files, Special Purpose

Frame Straightener, Portable or Stationary

Grinder, Bench

Gun, Air Dusting

Hacksaw

Hammers, Body

Hammers, Machine

Hammer, Sledge

Headlight Aiming Kit

Heat Gun

Helmet, Welding

Hoist, Chain or Pneumatic

Hole Saw

Infra-Red Paint Dryer

Jacks, Floor Roller

Jacks, Mechanical

Jacks, Twin Saddle

Jitterbug, Orbital

Jumper Cables

Magnetic Pick-up Tools

Mallet, Brass

Mallet, Leather

Mallet, Plastic

Mallet, Rubber

Masking Machine

Measuring Tape

Oiler

Oxyacetylene Welder

Paint Booth

Paint Shaker

Panel Cutter Set, Air Drive

Panel Vacuum Lift (Suction Cup)

Picks, Assorted

Plastic Spreaders

Pliers, Assorted

Pliers, Drip Molding

Pliers, Hog Ring

Pliers, Vise Grip

Pop-Rivet Tool

Power Polisher

Pull Clamps

Pull Straps, Fender

Punches, Assorted

Putty Knife

Radiator Pressure Tester

Reamers, Adjustable

Reamers, Special

Reamers, Tapered

Respirator

Safety Goggles

Sandblast Gun

Sanding Blocks

Scratch Awl (Scribe)

Screwdrivers, Clutch

Screwdrivers, Phillips

Screwdrivers, Standard

Screw Extractor Set (Easy Out)

Slide Hammer (Snatch Bar)

Socket Adapters

Socket Sets, 1/4 in., 3/8 in., 1/2 in.

Soldering Kit (Gun or Iron)

Solder Paddles, Curved or Flat

Spoons, Assorted

Spot Welding Gun, Rod

Spot Welding Gun, Resistance

Spray Gun, Detail

Spray Gun, Enamel Nozzle

Spray Gun, for Primer

Spray Gun, Lacquer Nozzle

Stands, Adjustable

Staple Gun

Steam Cleaner

Steel Work Benches

Tap and Die Set, Standard

Tap and Die Set, Metric

Test Light, Circuit

Tools, Door Handle Pin Removing

Tools, Door Handle Clip Removing

Tram Gauge

Tram Rod

Tubing Flaring Set

Vinyl Top Repair Kit

Vise

Vise Grip Clamps, Assorted

Wheel Covers

Wrench, Air Drive, 1/2 in.

Wrench, Air Drive, 3/8 in.

Wrenches, Box Set

Wrenches Combination Set

Wrenches, Open-End Set

VII. Implementation of Curriculum

It is suggested that the students begin at Module 01 and complete the program in chronological order. However, due to the nature of most auto body shops, instructors are often forced to build their curriculum around the automobiles in the shop at the present time.

This curriculum has been designed to accommodate this situation. Necessary handtools are introduced in the competency in which they are necessary. This is also true of safety procedures.

Competencies are independent of one another, and it is also feasible that the instructor can just use individual competency sheets rather than complete modules. Staff from the Bureau of Vocational, Technical and Adult Education are available to assist instructors with the implementation of the curriculum.

The following guide was developed to aid in conducting the program. Each competency sheet is summarized as to equipment needed, instructor responsibilities, and a summary and/or answers to the Criterion Evaluation. The guide does not include regular instructor activities such as supervising student's practice, or checking student practice.

MODULE 01: Occupational Information

Competency Statement 01: Describe working conditions common to auto body repairers.

Equipment Needed: None

Text Books: Occupational Outlook Handbook

Instructor Responsibilities:

1. Supply students with the name of an auto body repairer or firm.
2. Will assist students in use of the library.
3. Administer and Grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will report, orally or in writing, on the advantages and disadvantages of the working conditions for auto body repairers. Students will be graded on a four point student checklist.

MODULE 01: Occupational Information

Competency Statement 02: Describe the educational and/or technical requirements for auto body repairers.

Equipment Needed: None

Textbooks: Occupational Outlook Handbook

Instructor Responsibilities:

1. Supply students with the name of an auto body repairer or firm.
2. Will assist students in the use of the library.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will report, orally or in writing, on the educational and/or technical requirements for auto body repairers. Students will be graded on a three point student checklist.

MODULE 01: Occupational Information

Competency Statement 03: Describe the job market over the next 5 - 10 years for auto body repairers.

Equipment Needed: None

Textbooks: Occupational Outlook Handbook

Instructor Responsibilities:

1. Supply students with the name of an auto body repairer or firm.
2. Will assist students in the use of the library.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will report, orally or in writing, on the job market for auto body repairers over the next 5 to 10 years. Students will be graded on a three-point student checklist.

MODULE 01: Occupational Information

Competency Statement 04: Describe the average salary and benefits given to auto body repairers.

Equipment Needed: None

Textbooks: Telephone Directory

Instructor Responsibilities:

1. Will assistthe students in use of the telephone directory.
2. Supply students with the name of an auto body repairer or firm.
3. Will assist students in use of the library.
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will report, orally or in writing, on the average salary and benefits of auto body repairers. Students will be graded on a three-point student checklist.

MODULE 01: Occupational Information

Competency Statement 05: Describes or defines basic tools and job tasks common to auto body repairers.

Equipment Needed: None

Textbooks: Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will report, orally or in writing, on the tools and job tasks common to auto body repairer. Students will be graded on a three-point student checklist.

MODULE 02: Trim and Accessories

Competency Statement 01: Remove and replace bumpers.

Equipment Needed:

1. Vehicle with impact absorbing bumper.
2. Disassembled fixed bumper.
3. Disassembled impact absorbing bumper.

Textbooks: Total Auto Body Repair

Instructor Responsibilities:

1. Lecture on "Fixed and Impact Absorbing Bumpers"
2. Lecture/demonstration on replacing a fixed bumper.
3. Lecture/demonstration on "Adjusting Bumpers"
4. Lecture/demonstration on "Adjusting Impact-Absorbing Bumpers"
5. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students, with helpers, will remove, replace, and adjust impact-absorbing bumpers (front and rear) without causing any additional damage. Students will be graded on an eight-point student checklist.

MODULE 02: Trim and Accessories

Competency Statement 02: Replace Molding

Equipment Needed:

Automobile with molding, masking tape, and electric drill.

Textbooks:

1. Auto Body Repair
2. The Principles of Auto Body Repairing and Repainting.

Instructor Responsibilities:

1. Lecture/demonstration on the use and safety of an electric drill.
2. Lecture/demonstration on "Exterior Molding Attachments."
3. Lecture/demonstration on "Removing and Installing Exterior Molding."
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly remove and install molding without causing damage to the molding or finish.

MODULE 02: Trim and Accessories

Competency Statement 03: Remove and replace grille.

Equipment Needed:

1. Vehicle with damaged grille.

Textbooks: None

Instructor Responsibilities:

1. Lecture/demonstration on removing and replacing grilles.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly remove and replace a damaged grille without causing any additional damage to the automobile.

MODULE 02: Trim and Accessories

Competency Statement 04: Replace locks and latches.

Equipment Needed:

1. Vehicle requiring a new latch-lock mechanism.

Textbooks:

1. Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on "Disconnecting Actuating Arms and Removing the Latch-Lock Mechanism."
2. Lecture/demonstration on "Installing a Latch-Lock Mechanism."
3. Lecture/demonstration on "Adjusting the Door Lock Striker and Making an Operational Check on the Mechanism."
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly remove and replace the latch-lock mechanism without causing any additional damage.

MODULE 02: Trim and Accessories

Competency Statement 05: Repair manual seat tracks

Equipment Needed:

1. Vehicle requiring manual seat repair.
2. Lubricant.

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Lecture/demonstration on "Front Seat Attachment."
2. Lecture/demonstration on "Inspecting and Repairing Manual Seat Tracks."
3. Demonstration on "Lubricating the Tracks and Operating Mechanism."
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will determine what repairs the manual seat tracks need and correctly make the needed repairs.

MODULE 02: Trim and Accessories

Competency Statement 06: Remove, replace and adjust power window control units.

Equipment Needed:

1. Vehicle with defective power window control units.

Textbooks:

1. The Principles of Auto Body Repairing and Repainting.
2. The Principles of Auto Body Repair.

Instructor Responsibilities:

1. Lecture on "Power Window Circuit."
2. Quiz students on the "Function of Power Window Components."
3. Lecture/demonstration on "Common Repairs on Power Motors."
4. Quiz students on "Repair Procedures."
5. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will troubleshoot the defective power window control units and make the necessary repairs.

MODULE 02: Trim and Accessories

Competency Statement 07: Repair and/or replace window raising and lowering mechanisms

Equipment Needed:

1. Vehicle with damaged or broken window mechanism.

Textbooks:

1. Auto Body Repair
2. The Principles of Auto Body Repair and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on "Front Door Hardware."
2. Quiz students on "Front Door Hardware."
3. Lecture/demonstration on "Replacing the Mounting Plate and Channels."
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly repair and/or replace a damaged window mechanism.

MODULE 02: Trim and Accessories

Competency Statement 08: Remove and replace seat and shoulder belts.

Equipment Needed:

1. Vehicle needing seat belt and/or shoulder harness replacement.

Textbooks: None

Instructor Responsibilities:

1. Lecture/demonstration on "Removing and Installing Seat and Shoulder Belts."
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly remove and replace defective or worn seat belts and shoulder harnesses.

MODULE 03: Glass

Competency Statement 01: Remove and install windshield or rear window.

Equipment Needed:

1. Vehicle with broken windshield or rear window.
2. Piano wire, wide blade, screw driver, hot knife, checking blocks, and installation cord.

Textbooks:

1. Auto Body Repair
2. Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on removing glass in a rubber channel.
2. Lecture/demonstration on removing adhesive-caulked glass.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students, with an assistant, will correctly remove and replace a broken windshield or rear window.

MODULE 03: Glass

Competency Statement 02: Install and align windows in doors.

Equipment Needed:

1. Vehicle that needs a window installed and/or adjusted.

Textbooks:

1. Auto Body Repairing and Repainting
2. Total Auto Body Repair

Instructor Responsibilities:

1. Lecture/demonstration on replacing and aligning windows in doors.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly install and align a window glass in the door.

MODULE 03: Glass

Competency Statement 03: Seal leaks around windshield and rear windows

Equipment Needed:

1. Vehicle with leaky seal around the windshield or rear window.

Textbooks:

1. Auto Body Repairing and Repainting
2. Total Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will locate and repair leaks in the windshield and rear windows. Students will be graded on a four-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 01: Identify different types of abrasives and explain their functions.

Equipment Needed:

Most common - Sandpaper and grinding discs

Textbooks:

1. Total Auto Body Repair

Instructor Responsibilities:

1. Quiz students on different types of sandpaper and grinding discs.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to match abrasives (11) with job descriptions (10). Answers are on following page.

Criterion Evaluation Answers:

1. E
2. G
3. B
4. C
5. A
6. F
7. H
8. D
9. K
10. J

MODULE 04: Painting and Refinishing

Competency Statement 02: Use and maintain a spray gun.

Equipment Needed:

1. Spray gun and paint.
2. Cardboard box.

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Quiz students on parts of spray gun.
2. Lead class discussion on answers for Learning Activity #3.
3. Demonstrate how to maintain and clean spray gun.
4. Lecture/demonstration on influence of temperature, viscosity, reduction, and mixing.
5. Lecture/demonstration on proper strokes to use while using a spray gun.
6. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will correctly paint a cardboard box using a spray gun. Students will be graded on a nine-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 03: Clean and prepare surface for undercoats.

Equipment Needed:

1. Sheet metal panel
2. Sheet metal panel with paint damage
3. Pre-cleaning solvent
4. Sandpaper
5. Enamel reducer

Textbooks: None

Instructor Responsibilities:

1. Lecture/demonstration on featheredging.
2. Lecture/demonstration on preparing panel for refinishing.
3. Lecture/demonstration on treating metal.
4. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will prepare a sheet metal panel with paint damage for undercoating. Students will be graded on a five-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 04: Mask sections and parts.

Equipment Needed:

1. Vehicle
2. Masking materials

Textbooks:

1. Total Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will mask a vehicle for painting. Students will be graded on a nine-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 05: Prepare and apply undercoats.

Equipment Needed:

1. Sheet metal panel prepared for painting.
2. Thinners and reducers.
3. Paint.

Textbooks:

1. Total Auto Body Repair
2. Manufacturer's directions.

Instructor Responsibilities:

1. Lead class discussion on answers to questions in Learning Activity #2.
2. Lecture/demonstration on final sanding.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will prepare and apply the undercoating to a sheet metal panel prepared for painting. Students will be graded on an eleven-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 06: Match and mix paint, using correct thinners according to shop conditions.

Equipment Needed:

1. Sheet metal panel.
2. Spray gun.
3. Paint chip book.
4. Paint, thinners, reducers.

Textbooks:

1. Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on "Types of Paint"
2. Quiz students on types of paint.
3. Lead class discussion on answers for Learning Activity #5.
4. Lecture/demonstration on color matching.
5. Lecture/demonstration on influence of shop conditions when mixing paints
6. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to match the color and mix the paint to match a painted sheet metal panel. Students will be graded on a five-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 07: Paint and finish surface.

Equipment Needed:

1. Two sheet metal panels with all undercoats.
2. Spray gun.
3. Lacquer.
4. Enamel.
5. Reducer and thinner.

Textbooks:

1. Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on "Mist Coat."
2. Lecture/demonstration on "The Use of Rubbing Compound on Lacquer and Enamel Paint."
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will paint and finish two sheet metal panels, one in lacquer and one in enamel. Students will be graded on a six-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 08: Heat dry painted surface.

Equipment Needed:

1. Three vehicles which have been painted.

Textbooks:

1. Auto Body Repairing and Repainting
2. Automotive Refinishing Principles and Techniques

Instructor Responsibilities:

1. Lead class discussion on answers to Learning Activity #2.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to determine the flash time, drying time and temperature of three painted vehicles with 80% accuracy.

MODULE 04: Painting and Refinishing

Competency Statement 09: Refinish automobile with acrylic enamel.

Equipment Needed:

1. Vehicle
2. Spray gun
3. Masking materials
4. Reducer
5. Acrylic enamel
6. Chip book
7. Sandpaper
8. Paint putty
9. Sealer

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to refinish the doors, roof, and rear of an automobile. Students will be graded on a fourteen-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 10: Refinish automobile with acrylic lacquer.

Equipment Needed:

1. Vehicle
2. Spray gun
3. Acrylic lacquer
4. Masking material
5. Reducer
6. Primer-surfacer
7. Sandpaper
8. Paint putty
9. Sealer

Textbooks:

None

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to refinish the doors, roof and rear of an automobile. Students will be graded on a fourteen-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 11: Apply pinstriping to automobile.

Equipment Needed:

1. Sheet metal panel or vehicle.
2. Striping tape.
3. Spray gun.
4. Paint.

Textbooks:

1. Total Auto Body Repair

Instructor Responsibilities:

1. Lecture/demonstration on making curves with striping tape.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to paint pinstripe, both straight line and curved, using striping tape. Students will be graded on a seven-point student checklist.

MODULE 04: Painting and Refinishing

Competency Statement 12: Replace woodgrain panels.

Equipment Needed:

1. Vehicle with wood grain panels.
2. Wood grain transfers.

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to remove and replace wood-grain panels. Students will be graded on a seven-point student checklist.

MODULE 05: Metal Work

Competency Statement 01: Identify various types of construction used in automobile manufacturing.

Equipment Needed: None

Textbooks:

1. Automotive Collision Work
2. "The Changing Architecture of the Automobile Body" film.

Instructor Responsibilities:

1. Show film "The Changing Architecture of the Automobile Body."
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to complete a 10-question true-false examination on automobile construction with 90% accuracy. Answers are on the following page.

Student Competency Sheet - Page 3

Answer Key for Criterion Evaluation 05/01

1. FALSE
2. FALSE
3. TRUE
4. FALSE
5. TRUE
6. TRUE
7. FALSE
8. TRUE
9. FALSE
10. FALSE

MODULE 05: Metal Work

Competency Statement 02: Identify parts (body and frame) of an automobile.

Equipment Needed:

1. Vehicle or illustrated drawing

Textbooks:

1. Auto Body Repair
2. General Motors Chart "Body Construction"

Instructor Responsibilities:

1. Lecture/demonstration on locating parts of an automobile.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Student will be required to identify the tagged parts of an automobile or illustrated drawing with 100% accuracy.

MODULE 05: Metal Work

Competency Statement 03: Identify welding process used in restoring a damaged automobile.

Equipment Needed: None

Textbooks:

1. Autobody Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on the types of welding used in Autobody Repair.
2. Select a filmstrip on welding to show in Learning Activity #4.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to complete a four-question welding examination with 90% accuracy. Answers are on the following page.

Student Competency Sheet - Page 3

Answer Key for Criterion Evaluation 05/03

1. Electric Arc
   Oxacetylene

2. Electric - spot welding, frame welding.
   Oxyacetylene - large gaps, cutting sheet metal

3. Oxyacetylene

4. Oxyacetylene

MODULE 05: Metal Work

Competency Statement 04: Set up oxyacetylene welding station.

Equipment Needed:

1. Oxyacetylene welding station

Textbooks:

1. Auto Body Repairing and Repainting
2. Total Auto Body Repair
3. Principles of Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lecture/demonstration on "Procedure in setting up an oxyacetylene welding station."
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will select the necessary equipment for an oxyacetylene welding station and assemble the station. Students will be graded on an eleven-point student checklist.

MODULE 05: Metal Work

Competency Statement 05: Select tip pressure and flame oxyacetylene welding.

Equipment Needed:

1. Oxyacetylene welding station.
2. 1/16" metal.
3. 26-gauge metal
4. 3/16" metal
5. 24-gauge metal
6. 1/8" metal
7. 1/4" metal

Textbooks:

1. Automotive Collision Work

Instructor Responsibilities:

1. Lecture/demonstration on installing tips, adjusting operating pressures for oxygen and acetylene, and lighting the torch and adjusting the flame.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to correctly perform three welding tasks.

MODULE 05: Metal Work

Competency Statement 06: Cut metal with a gas welder.

Equipment Needed:

1. Oxyacetylene welding station.
2. 20-gauge sheet metal panel.

Textbooks:

1. Auto Body Repairing and Repainting
2. Total Auto Body Repair

Instructor Responsibilities:

1. Lecture/demonstration on cutting metal with a gas welder.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to select the proper equipment and cut a four-inch square from a 20-gauge sheet metal panel. Students will be graded on a six-point student checklist.

MODULE 05: Metal Work

Competency Statement 07: Perform gas butt welding.

Equipment Needed:

1. Oxyacetylene welding station
2. 20-gauge sheet metal panels.

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Lecture/demonstration on welding butt joints.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to butt weld two 20-gauge sheet metal panels. Students will be graded on a six-point student checklist.

MODULE 05: Metal Work

Competency Statement 08: Perform lap welding operations with a spot weld.

Equipment Needed:

1. Arc welder and accessories.
2. Sheet metal.
3. 1/4" plate
4. 3/16" mild steel
5. 1/16" sheet metal

Textbooks:

1. The Principles of Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lead class discussion on answers to Learning Activity #2.
2. Lecture/demonstration on the use of arc welding equipment.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will spot weld two pieces of sheet metal to form a lap joint.

MODULE 05: Metal Work

Competency Statement 09: Weld automotive framing member with an arc welder.

Equipment Needed:

1. Arc welding equipment
2. Clamps
3. Grinder
4. Reinforcement plate.
5. 1/4" Steel
6. Auto with damaged frame

Textbooks:

1. The Principles of Auto Body Repairing and Repainting
2. Automotive Collision Work

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to arc weld a damaged section of an automobile frame and apply a reinforcement plate. Students will be graded on a five-point student checklist.

MODULE 05: Metal Work

Competency Statement 10: Perform diagonal checking.

Equipment Needed:

1. Tram gauge
2. Steel tape
3. Four sheet metal panels

Textbooks:

1. Automotive Collision Work

Instructor Responsibilities:

1. Lecture/demonstration on use of a tram gauge and steel tape for diagonal checking.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to perform diagonal checking and measurements on four sheet metal panels using a tram gauge and steel tape. Measurements must be within ± 1/8 inch.

MODULE 05: Metal Work

Competency Statement 11: Identify sheet metal damage.

Equipment Needed:

1. Ten damaged sheet metal panels.

Textbooks: None

Instructor Responsibilities:

1. Lecture/demonstration on analyzing sheet metal damage.
2. Lead class discussion on analyzing sheet metal damage.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to analyze 10 sheet metal panels and determine the type and direction of damage within 80% accuracy.

MODULE 05: Metal Work

Competency Statement 12: Use autobody hammers and dollies to "rough out" sheetmetal.

Equipment Needed:

1. Hammers
2. Dollies
3. Two sheet metal panels

Textbooks:

1. Total Auto Body Repair
2. Autobody Repairing and Repainting
3. Automotive Collision Work

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use a hammer and dollie to rough out two damaged sheet metal panels by using direct hammering on one and indirect hammering on the other.

MODULE 05: Metal Work

Competency Statement 13: Use body file and pick hammer to smooth damaged sheet metal.

Equipment Needed:

1. Body file
2. Pick hammer
3. Damaged sheet metal panel.

Textbooks:

1. Automotive Collision Work
2. Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to smooth a damaged sheet metal panel with a body file and pick hammer.

MODULE 05: Metal Work

Competency Statement 14: Use slide hammer and body spoon to restore damaged sheet metal.

Equipment Needed:

1. Slide hammer
2. Body spoon
3. Damaged sheet metal panel

Textbooks:

1. Auto Body Repair
2. Total Auto Body Repair

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to smooth a damaged sheet metal panel with a slide hammer and body spoon.

MODULE 05: Metal Work

Competency Statement 15: Shrink a stretched area on a panel.

Equipment Needed:

1. Oxyacetylene welder
2. Shrinking dolly
3. Pick hammer
4. Water and sponge
5. Damaged sheet metal panel
6. 20-gauge sheet metal panel

Textbooks:

1. Principles of Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lead class discussion on answers in Learning Activity #2.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use the necessary supplies and equipment to shrink a stretched spot.

MODULE 05: Metal Work

Competency Statement 16: Fill and smooth depressed areas with body solder

Equipment Needed:

1. Oxyacetylene welder
2. Solder
3. Oil paddle
4. Body file
5. Damaged sheet metal panel

Textbooks:

1. The Principles of Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Lead class discussion on answers in Learning Activity #2.
2. Lecture/demonstration on use of the disc grinder and muriatic acid.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use the necessary supplies and equipment to fill and smooth the depressed area with solder.

MODULE 05: Metal Work

Competency Statement 17: Use light-duty hydraulic straightening equipment.

Equipment Needed:

1. Push-pull jack
2. Jack base
3. Adapters
4. Tubing
5. Caps
6. Power dolly
7. Damaged auto or panels.

Textbooks:

1. Automotive Collision Work

Instructor Responsibilities:

1. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to straighten one panel using the push-pull jack and attachments and one panel using a power dolly.

MODULE 05: Metal Work

Competency Statement 18: Use plastic filler to restore damaged area.

Equipment Needed:

1. Plastic filler
2. Hardener
3. Putty knife
4. Grinder
5. Damaged auto or panels

Textbooks:

1. Auto Body Repair

Instructor Responsibilities:

1. Lead class discussion on answers to Learning Activity #2.
2. Two part lecture/demonstration on mixing and applying plastic body filler and smoothing the filler.
3. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use plastic filler to restore a damaged sheet metal panel. Students will be graded on a five-point student checklist.

MODULE 05: Metal Work

Competency Statement 19: Use fiber glass to restore a damaged area.

Equipment Needed:

1. Vehicle with body damage.
2. Fiber glass filler.

Textbooks:

1. Total Auto Body Repair

Instructor Responsibilities:

1. Lead class discussion on answers to Learning Activity #2.
2. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use fiber glass filler to restore a damaged area of a vehicle. Students will be graded on a seven-point student checklist.

MODULE 05: Metal Work

Competency Statement 20: Repair fiberglass bodies.

Equipment Needed:

1. Vehicle with a damaged fiberglass body.
2. Fiberglass filler

Textbooks:

1. Total Autobody Repair

Instructor Responsibilities:

1. Lead class discussion on the differences between using fiberglass on metal body parts and using fiberglass on fiberglass body parts.
2. Lecture/demonstration on "Repairing Holes in Fiberglass Panels."
3. Lecture/demonstration on "Repairing Cracks in Fiberglass Bodies."
4. Lecture/demonstration on "Repairing Shattered Fiberglass Panels."
5. Administer and grade the Criterion Evaluation.

Summary of Criterion Evaluation:

Students will be required to use fiberglass filler to repair a damaged fiberglass body. Students will be graded on a seven-point student checklist.

MODULE 06: Body Alignment

Competency Statement 01: Aligns moveable body components (doors, deck lid, and hood)

Equipment Needed:

Automobile with door, decklid, and/or hinge misalignment

Textbooks: Total Auto Body Repair

Instructor Responsibilities:

1. Quiz students on the parts of a door.
2. Conduct lecture/demonstration on hinge adjustment.
3. Conduct lecture/demonstration in "Adjusting door striker."
4. Quiz students on the parts of a deck lid.
5. Conduct lecture/demonstration on a "Deck Lid Adjustment."
6. Conduct lecture/demonstration on "Adjusting the Torsion Bar."
7. Conduct lecture/demonstration on "Adjusting the Deck Lid Lock."
8. Quiz students on parts of a hood.
9. Conduct lecture/demonstration on "Hood Hinge Adjustment."
10. Conduct lecture/demonstration on "Adjusting Hood Height."
11. Attend lecture/demonstration on "Adjusting the Hood Latch."

Summary of Criterion Evaluation:

Students will adjust door, deck lid, and/or hood. Checklist provided in student materials.

MODULE 06: Body Alignment

Competency Statement 02: Remove and Install Fenders

Equipment Needed:

1. Automobile with fender damage.
2. Oxyactylene welding equipment.
3. Electric shield.
4. Power chisel, vice grips, and clamps.

Textbooks: Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Conduct lecture/demonstration on "Removing and Installing Fenders."

Summary of Criterion Evaluation:

Students will replace fender. Checklist is provided in student materials.

MODULE 06: Body Alignment

Competency Statement 03: Align Headlights

Equipment Needed:

1. Masking tape
2. Headlight adjusting equipment

Textbooks:

The Principles of Auto Body Repairing and Repainting

Instructor Responsibilities:

1. Conduct class discussion on answer to questions in Learning Activity #2.
2. Conduct lecture/demonstration on "Using Headlight Adjusting Equipment.

Summary of Criterion Evaluation:

Students will adjust headlights using floor layout. Checklist is provided in student materials.

MODULE 06: Body Alignment

Competency Statement 04: Align Front End

Equipment Needed:

Shims, strut rod, eccentric bolts, bushings, and pins.

Automobile that is out of alignment.

Textbooks: The Principles of Auto Body Repairing and Repainting

Manufacturer's Manual.

Instructor Responsibilities:

1. Conduct class discussion on answers of questions in Learning Activity #2.
2. Conduct lecture/demonstration on "Adjusting the Caster."
3. Conduct lecture/demonstration on "Adjusting the Camber."
4. Conduct lecture/demonstration on "Adjusting Toe In."

Summary of Criterion Evaluation:

Students will adjust camber, toe in, and caster. They may use manufacturer's manual for a reference. Checklist is available in student material.

MODULE 06: Body Alignment

Competency Statement 05: Remove and install fiberglass panel.

Equipment Needed:

Fiberglass panel

Automobile with fiberglass body.

Textbook: Auto Body Repair

Instructor Responsibilities:

1. Conduct class discussion on "Differences in Replacing a Fiberglass Panel and Metal Panel."
2. Conduct lecture/demonstration on "Removing a Fiberglass Panel."
3. Conduct lecture/demonstration on "Installing a Fiberglass Panel."

Summary of Criterion Evaluation:

Students will remove and install fiberglass panel. Checklist is available in student material.

MODULE 07: Frame Work

Competency Statement 01: Analyze extent of damage to frame.

Equipment Needed:

1. Frame Gauges
2. Automobile with frame damage.

Textbooks:

1. The Principles of Auto Body Repairing and Repainting
2. Auto Body Repairs
3. Manufacturer's Manual or Blueprints.

Instructor Responsibilities:

1. Discuss with class "Concept of Four Controlling Points."
2. Discuss with class their answers in Learning Activities #3.
3. Give lecture/demonstration on "Using a Manufacturer's Manual to find the Correct Dimensions for the Understructure.

Summary of Criterion Evaluation:

Student must set up necessary frame gauges and determine damage to frame. They may use manufacturer's manual or blueprints as a reference. They must be 100% accurate.

MODULE 07: Frame Work

Competency Statement 02: Align frame using portable or stationary frame equipment.

Equipment Needed: Portable or stationary frame straightening equipment.

Automobile with frame damage.

Textbooks: Manufacturer's Manuals
Illustrations of Frames

Instructor Responsibilities:

1. Lecture students on "Positions to hold and Apply Pressure for each type of Frame."
   Quiz students.

2. Demonstrate safety precautions.

3. Depending on the type of frame straightening equipment you have, lecture the class on the parts and function of the equipment. Quiz the students on the information.

4. Demonstrate to the students how to set up the frame equipment.

5. Lecture the class on using heat when straightening frames.

6. Lecture the class on the following and check the students' work on their illustrations.

   A. Aligning a frame with sway damage.
   B. Aligning a frame with side rail sag damage.
   C. Aligning a frame that is masked or buckled.
   D. Aligning a Diamond frame.
   E. Aligning a twisted frame.

Summary of Criterion Evaluation:

The students will straighten a damaged frame to original dimensions according to manufacturers' specifications.

MODULE 07: Frame Work

Competency Statement 03: Repair frame horn and cross-member.

Equipment Needed: Crossbeam chains, hydraulic jack, and automobile with frame horn or cross member damage.

Textbooks: Total Auto Body Repair

Manufacturer's Manual

Instructor Responsibilities:

1. Conduct lecture/demonstration on Repairing Frame Horn Damage.
2. Conduct lecture/demonstration on Repairing Crossmember Damage.

Summary of Criterion Evaluation:

Students will repair frame horn or crossmember damage to manufacturer's specifications.

MODULE 07: Frame Work

Competency Statement 04: Reinforce Frame

Equipment Needed:

1. Straightened frame.
2. Riveting tools.
3. Reinforcement Materials.
4. I-Beam

Textbooks: Automotive Collision Work

Instructor Responsibilities:

1. Lead class discussion on answers to questions in Learning Activity #2 and Learning Activity #3.

2. Conduct lecture/demonstration by instructor on the "Use of Air and Electrically Operated Rivet Guns."

Summary of Criterion Evaluation:

Students must select location of reinforcement, the material to use, and reinforce the frame. They must use all hand tools properly.

MODULE 08: Estimating

Competency Statement 01: Explain why collision estimates may vary.

Equipment Needed: Damaged Automobile

Textbooks: Automotive Collision Work

Instructor Responsibilities:

1. Lead class discussion on the "Differences between Courtesy Estimates, Noncompetitive Estimate and Competitive Estimate."
2. Lecture class on "Hidden Costs in Estimating."
3. Lecture class in "Overlap Charges in Estimating."

Summary of Criterion Evaluation:

Students must answer 10 questions on collision estimates and why they vary. Answers follow on next page.

Answers: Criterion Evaluation

1. Courtesy estimate - a cost computation done as a favor to a customer, often for insurance purposes.

2. Noncompetitive estimate - a repair cost computation which will not be bid against by other firms.

3. Competitive estimate - a repair cost computation which is competitive with estimates from other firms.

4. Overlap charges - computations based on the amount of labor duplication encountered when various panels and time components are involved.

5. Answers 5-10 can be any five of the following.

   a) Underseal needs removed and replaced.

   b) There is a lot of grease on a car that needs painted.

   c) Parts need aligned next to parts being replaced.

   d) Rusted bolts.

   e) Holes on the new parts need plugged and finished.

   f) Windshield shattered on the inside of a car.

   g) Brackets, braces or reinforcements need to be transferred from old part to new part.

MODULE 08: Estimating

Competency Statement 02: Identify extent of damages on automobile needing repair.

Equipment Needed: Damaged Automobile

Textbooks: Mitchell's Estimating Guide

Instructor Responsibilities:

1. Lecture class on "Basic Estimating Procedures" and then lead class discussion.
2. Demonstrate to class how to identify damage in the front of an automobile.
3. Demonstrate to class how to identify damage to the frame and underbody.
4. Demonstrate to class how to identify side damage.
5. Demonstrate to class how to identify rear damage.

Summary of Criterion Evaluation:

Students will identify extent of damage to an automobile with 90% accuracy.

MODULE 08: Estimating

Competency Statement 03: Use collision guide to compute costs of parts and labor for a damaged automobile.

Equipment Needed:

Damaged automobile.

Textbooks:

Mitchell's Collision Estimating Guide

Instructor Responsibilities:

1. Lecture class on identifying the model and make of an automobile and how it applies to the Model ID section in Mitchell's Collision Estimating Guide.
2. Lecture class on identifying the part number price and time estimate in a collision guide.
3. Lecture class on using a conversion table for converting labor times to dollars.

Summary of Criterion Evaluation:

Students will compute the cost of parts and labor using a collision guide. Totals must be 100% accurate. Students must receive a satisfactory rating on each item of the Student Checklist which is included in their materials.

MODULE 08: Estimating

Competency Statement 04: Complete estimate form for a damaged automobile.

Equipment Needed:

Damaged Automobile

Textbooks: Auto Body Repair
Estimate Forms

Instructor Responsibilities:

1. Demonstrate how to compute estimate forms.

Summary of Criterion Evaluation:

Students must complete an estimate form for repairs on a damaged automobile with 100% accuracy. Students may use Collision Guide for reference.

MODULE 08: Estimating

Competency Statement 05: Verify insurance coverage.

Equipment Needed: None

Textbooks: Total Auto Body Repair

Instructor Responsibilities:

1. Lecture class on details of accident for each car so the students can list the type of claims involved.
2. Lecture class on "how to verify insurance."

Summary of Criterion Evaluation:

Students must list procedure to use to verify coverage for three case studies. Student checklist available in student materials.

MODULE 08: Estimating

Competency Statement 06: Order parts and materials

Equipment Needed: Damaged Automobile

Textbooks: Total Auto Body Repair

Instructor Responsibilities:

1. Lecture class on Ordering Parts and Materials from out of town, by mail, by telephone, and ordering used parts.

Summary of Criterion Evaluation:

Assign students to an automobile. They must list the parts and materials needed for repair, the parts number, and the price. They must also describe the procedures they will use to order the parts. Checklist is available in student materials.

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